



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,438	07/03/2003	Shiva Prakash	061450/0304608	5116

7590 03/30/2004
PILLSBURY WINTHROP LLP
2550 Hanover Street
Palo Alto, CA 94304-1115

EXAMINER

RAEVIS, ROBERT R

ART UNIT	PAPER NUMBER
----------	--------------

2856

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/613,438	Applicant(s) PRAKASH, SHIVA	
	Examiner Robert R. Raevis	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-8 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 4 and 5 is/are allowed.
 6) ☒ Claim(s) 1-3, 6 and 8 is/are rejected.
 7) ☒ Claim(s) 7 and 9-11 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7-3-03</u>	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
--	--

DETAILED ACTION

The disclosure is objected to because of the following informalities: the status of the parent application should be updated on page 1.

Appropriate correction is required.

Claims 6-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 6, what is the "measurement" (line 3 from last) "related" (first occurrence, line 2 from last) to? The phrase "(need to reword)" (line 2 from last) should be deleted.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khandros et al '738, in view of either Kanamaru et al '023 or Mackawa et al, and further in view of Verdi et al.

Khandros et al teach (Figures 11,12) a "probe" (col. 2, lines 49,52) that includes an elongate support 187 that extends all the way to pad 103, and conducting film 190 over the support. The structure forms a probe contact, and the lowermost end of the support includes a coating with a rounded surface.

Art Unit: 2856

Khandros does not state that the end of the support 187 is "rounded", and does not make reference to "atomic force microscope"

As to claim 1, it would have been obvious to employ a rounded lower tip for support 187 because either (1) Kanamaru (col. 1, lines 45-55) teaches use of curved probes that allow for breaking of oxide films on pads during testing, or (2) Mackawa et al teach (col. 5, lines 57+, and continuing on to col. 6, line 17) use of a spherically tipped probe to provide for a tip that can establish a fresh contact surface with a pad under test. No weight was given to the preamble of Applicant's claim as it is only a statement of intended use.

As to claims 2,3, note Kanamaru's dimensions on col. 1, line 49.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khandros et al '738, in view of either Kanamaru et al '023 or Mackawa et al, and further in view of Verdi et al.

Comments that exist above regarding claims 1-3 identically apply here.

As to claims 6,8, Khandros states (col. 1, lines 27-32) that his (probe) device may be used for testing substrates by making temporary contacts against pads, but does not describe the nature of the pad. As to claim 6, it would have been obvious to utilize Verdi's particular pad (which "includes a metal coating", line 6 from bottom of the ABSTRACT) as Khandros's "pad" (col. 1, line 32) because Khandros's generic/broad reference to a pad is suggestive of use of any known pad (Verdi's "metal coating") pad in the semiconductor industry.

Art Unit: 2856

Claims 7,9,10,11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 4, note was made of combination of the particularly claimed steps (emphasis upon the "coating the rounded piece...up to the distal region" (lines 3-5 from last) for the method "of making an atomic force microscope arm for performing atomic force microscopy measurements of an electrically-dependent property of a sample" (lines 1-3). Full weight was given to the preamble of claim 4, as there is not intended use in a method claim.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeWold et al related (col. 1, lines 30-45) AFT to measuring resistance.

Meuris et al illustrate (Figure 3) how an AFM is used to measure resistance. However, the tip does not employ a "rounded" end, and does not employ the particularly located coating of claim 4.

Higgins et al teach a flexible probe for semiconductor testing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 7am to 4pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RARD
RAGUS